DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]This invention relates to an allocation-of-cars reservation system for a user to reserve allocation of cars.
[0002]
[Description of the Prior Art]The fare of the taxi is conventionally integrated gradually by operation distance and lapsed time.
The fee of direct payment was in the driver of a taxi at the time of alighting.

[0003]
[Problem(s) to be Solved by the Invention]However, when getting on a taxi in such a method of paying, a fee is unknown, and many persons of not using a taxi since there is insecurity [as opposed to / since we understand only after the integrated fare becomes at the time of alighting / for a user / a fare] and there is such insecurity were also. Since a course may have changed with drivers and operation distance and the time of arrival changed according to a course even if it is the same destination, a fare becomes necessarily uniform less and it had become a cause by which this also gave a user insecurity.
[0004]This invention was made in order to solve the above problems, before it takes a taxi, it can know a fare, and it cancels a user's insecurity by it, and an object of this invention is to provide the allocation-of-cars reservation system of the taxi aiming at urging use of a taxi.
[0005]
[The means for solving a technical problem and an effect of the invention] In order to solve the above-mentioned problem the allocation-of-cars reservation system according to claim 1, The spot information transmitting means which transmits the spot information which the user inputted, and the spot information reception means which receives said spot information

transmitted from this spot information transmitting means, The freight calculating means which computes a fare based on said spot information which this spot information reception means received, The fare information transmitting means which transmits said fare computed by this freight calculating means as fare information, The fare information reception means which receives said fare information transmitted from this fare information transmitting means, The freight reporting means which notifies a user of said fare based on said fare information which this fare information reception means received, It is constituted by the confirmed information transmitting means which transmits the confirmed information which shows whether it gets on with the fare notified by this freight reporting means, and the confirmed information reception means which receives said confirmed information transmitted from this confirmed information transmitting means.

[0006]In this allocation-of-cars reservation system, a spot information transmitting means, a fare information reception means, a freight reporting means, and a confirmed information transmitting means are means which each user side owns. Two or more terminal units provided with each above-mentioned means are distributed, it incorporates, a terminal unit of these plurality cooperates, and these means operate, although all the means should just usually be built into one terminal unit. A spot information reception means, a freight calculating means, a fare information transmitting means, and a confirmed information reception means are means which the taxi company side manages. These means are constituted by electronic computing system which can perform a terminal and data communications by the side of a user.

[0007]In this allocation-of-cars reservation system, spot information is first sent to the taxi company side from the user side. This spot information has the information on a place (destination) that a place (origin) and a user by whom a user shows up in a taxi at least get out of a taxi. This origin and destination may operate and specify a pointer, for example like a well-known car-navigation system on a map displayed on the user side information terminal, and an address and a telephone number of an origin and a destination may be inputted, and they may specify it.

[0008]Next, the taxi company side computes fare information based on this spot information, and sends it to the user side. A method of computing fare information by a freight calculating means here computes a slant range from an origin to a destination by spot information, and should just set up a fare according to the distance as fare information. Operation routes along a road may be drawn from spot information like a well-known car-navigation system, and a fare according to distance of the operation routes may be set up as fare information. As for operation routes here, it is arbitrary whether it uses for freight calculation and actually runs these operation routes.

[0009]Next, the user side checks a fare by a freight reporting means. As long as a user can

check a fare from fare information, what kind of means may be sufficient as this freight reporting means, but a means of which a user is notified may be sufficient as it by, for example, displaying a fare on a display screen with which the user side information terminal was equipped. A means of which a user is notified with a sound with a speech output unit with which a user terminal was equipped may be used. A passenger may actually be the liability itself and a fare notified here may be the amount of money shown as a rule of thumb to the last. If a fare is notified, the user side will send confirmed information to the taxi company side if needed. Although what is necessary is to be constituted so that information on the contents that he wishes to get on may be sent to the taxi company side only when you wish entrainment with a fare to which a user was notified, confirmed information may be constituted so that information on the contents that he does not wish to get on may be sent, when you do not wish entrainment with a fare to which a user was notified. Information, including contents which time of hope specifies, contents which carry out multiple-times hope of the request to print out files to the same destination, use non-use of a toll road, use non-use of a taxi ticket, a method of paying, etc., may be included in confirmed information, for example.

[0010]And only when confirmed information includes contents which wish to get on, the taxi company side arranges allocation of cars, and sends a taxi to welcoming to an origin. According to the allocation-of-cars reservation system constituted in this way, the user can know a fare before entrainment beforehand. Therefore, when a notified fare is actually a liability, since a user is not asked for a fare more than the shown amount of money, he can get on in comfort. Even when a notified fare is the amount of money shown as a rule of thumb, since it can expect that a fare does not change substantially, if it compares with the conventional freight system, anxiety about a fare will decrease.

[0011]By the way, a freight calculating means in this allocation-of-cars reservation system, Although what is necessary is to just be constituted so that a fare of 1 may be computed, as an example which computes especially two or more fares the allocation-of-cars reservation system according to claim 2, Said freight calculating means computes said two or more fares, and them said fare information transmitting means, Transmit as said fare information and said two or more fares said freight reporting means, It is constituted so that a user may be notified of said two or more fares based on said fare information, One in said two or more fares notified by said freight reporting means. It has a freight selecting means which a user is made to choose arbitrarily, and said confirmed information transmitting means is constituted by ability ready for sending in said confirmed information including information on a purport that he wishes entrainment with a fare which a user chose by said freight selecting means.

[0012]Some are considered as a method of computing two or more fares which can be set to this allocation-of-cars reservation system. For example, what is necessary is just to compute a fare by the computing methods when not taking use of a toll road into consideration etc., when

use of a toll road is taken into consideration. What is necessary is just to compute a fare for every taxi company, when it is a freight system from which two or more taxi companies of each differ. As long as the freight selecting means in this allocation-of-cars reservation system can make a user choose one in two or more fares arbitrarily, what kind of composition may be sufficient as it. For example, what is necessary is to display a number beforehand provided in each of each fare with two or more fares on freight reporting means, such as a display screen, and to just be constituted so that a number which a user chose may be transmitted as confirmed information.

[0013]As for an allocation-of-cars reservation system constituted in this way, two or more fares are computed by freight calculating means. Therefore, the user can reserve allocation of cars on conditions for which a user wishes, such as choosing a fare in consideration of use of a toll road from two or more fares, for example to move in a hurry using a toll road.

[0014]By the way, to an origin, a driver of a taxi allocated in this way goes to greet, will check that he is the user who reserved and will put. However, when there are many people in an origin, there is a possibility of picking up those who a driver of a taxi is wrong in and have not reserved allocation of cars.

[0015]Then, in order to prove that a user made an allocation-of-cars request to print out files with it when, as for written this invention, said confirmed information which said check reception means received had the information which shows hope of entrainment in claim 3, it is characterized by a reservation system comprising the following.

A reservation information transmitting means which transmits reserved information.

A reserved information reception means which receives said reserved information transmitted by this reservation information transmitting means.

[0016]In this allocation-of-cars reservation system, the reserved information reception means can consider a case where it is the means which only the user side owns. In this case, what is necessary is just to be able to check that he is the user who reserved by notifying reserved information which the taxi company side sent to the user side to a driver of a taxi. A number etc. which were assigned to a user who reserved allocation of cars, for example may be sufficient as reserved information here. A case where a reserved information reception means is a means which consists of the 1st reserved information reception means which the user side owns, and the 2nd reserved information reception means carried in each taxi can be considered. In this case, what is necessary is just to check that he is the user who reserved by sending the same reserved information as both reserved information reception means, sending reserved information to the 2nd reserved information reception means, when a user gets on, and comparing that mutual reserved information is the same.

[0017]According to the allocation-of-cars reservation system constituted in this way, when a

user gets on, ** which checks that he is the user who reserved certainly can do the taxi company side. Therefore, what picks up those who have not reserved allocation of cars by mistake does not happen.

[0018]Since a user does not understand time until a taxi picks up at an origin when sending a taxi to welcoming to an origin with such an allocation-of-cars reservation system, when it cannot wait for a long time, even if only a fare is told, it may be troubled [whether he wishes entrainment into a taxi, and] by judgment.

[0019]Then, the allocation-of-cars reservation system according to claim 4, An arrival information transmitting means which transmits a predetermined time to which a reserved car arrives at an origin as arrival information, An arrival information reception means which receives said arrival information transmitted by this arrival information transmitting means, It has an arrival information reporting means which notifies said predetermined time based on said arrival information received by this arrival information reception means, and said arrival information means is transmitted with said fare information.

[0020]In this allocation-of-cars reservation system, an arrival information reception means and an arrival information reporting means are means which the user side owns, and an arrival information transmitting means is a means which the taxi company side owns. This allocation-of-cars reservation system sends arrival information to a user from the taxi company side, and notifies a user of time-of-arrival information by an arrival information reporting means. What expected time until an operator discovers a taxi which is around an origin by radio etc. and it goes to greet to an origin may be sufficient as this time-of-arrival information, and, What computed time until it goes to greet with distance from a position of a taxi which is around the origin detected with position detecting systems, such as GPS, to an origin may be used. By displaying time until a taxi goes to a display screen to invite to an origin, a user may be notified of an arrival information reporting means, and it may notify a user of time until a taxi goes to invite to an origin with a sound.

[0021]According to the allocation-of-cars reservation system constituted in this way, the user can check beforehand a predetermined time until a taxi picks up at an origin with a fare. Therefore, the user can decide whether to wish to get on in consideration of both a fare and waiting time.

[0022]This arrival information should just be constituted so that only time for a taxi which is in a position nearest to an origin to go to greet to an origin may be computed, but it is good also considering what computed the time of arrival in case two or more taxis which are near an origin go to greet to an origin, respectively as arrival information.

[0023]

[Embodiment of the Invention]Next, an example is given and explained about an embodiment of the invention.

(Example 1) The allocation-of-cars reservation system 1 is constituted by the user side information terminal 10 which a user owns, the server 30 which the taxi company side owns, the taxi side information terminal 50 with which the taxi was equipped, the communication line network 100 for performing information and telecommunications, etc. as shown in drawing 1.
[0024]The user side information terminal 10 is provided with the following.
The user side transmission and reception means 12 which transmits and receives spot information, fare information, attainment information, and confirmed information and reserved information.
The indicator 14 which can display the information on attainment information, fare information, or reserved information.
Two or more manual operation buttons 16 which can input spot information and confirmed information.

[0025]The server 30 has the following.
The server side transmission and reception means 32 which transmits and receives spot information, fare information, attainment information, and confirmed information and reserved information through the communication line network 100.
The computer body 34 which carries out generation of fare information and reserved information.
The keyboard 36 which can input arrival information.
The hard disk built in the computer body, and a display.

[0026]The taxi is equipped with the taxi side information terminal 50, and it is constituted by the taxi side transmission and reception means 52 which receives the reserved information and spot information which were sent by the server 30, and the indicator 54 which displays reserved information etc. on a screen. The procedure of the processing in this allocation-of-cars reservation system 1 is explained based on drawing 1.
[0027]First, the user who considers use of the taxi operates the owned user side information terminal 10, and connects with the server 30. Connection between the user side information terminal 10 and the server 30 may be made for example, by the Internet course, and it may carry out via a telephone line. If connection between the user side information terminal 10 and the server 30 is established, a user will operate the user side information terminal 10, and will input spot information. By it, the user side information terminal 10 transmits the spot information which shows the position of the origin and destination which were inputted by the user to the server 30. The input of this spot information is performed in the following procedures, for example. As shown in introduction drawing 2 (a) and drawing 2 (b), the input of the item which the user chose among search methods, such as the name of a place displayed

on the indicator 14, a name of the station, and a telephone number, is transmitted to the server 30 from the user side information terminal 10 (a1, a2). Next, the server 30 searches the surrounding map of the input from the database in a hard disk (a3, a4), and transmits to the user side information terminal 10 by making the searched surrounding map into map information (a5, a6). Next, the user side information terminal 10 displays a map and the pointer 14a on the indicator 14, as shown in drawing 2 (c) (a7). A user inputs an origin and the destination by operating the pointer 14a with the manual operation button 16. And the user side information terminal 10 transmits to the server 30 by making into spot information the information on the longitude of the origin and destination which the user inputted, and latitude (a8, a9).

[0028]The server 30 computes the route and running time from an origin to the destination by being caused computer body 34 based on the received spot information, and makes fare information the fare defined according to this computed result (a10, a11). The taxi where the operator of a taxi company is around an origin based on spot information. Or the taxi and connection which are standing by in a taxi company are taken, and expected time until it goes to a starting point to greet a user is checked, and by making the expected time into arrival information, it depends keyboard 36 and inputs (a12). And this fare information and arrival information are transmitted to the user side information terminal 10 (a13, a14).

[0029]The user side information terminal 10 which received fare information and arrival information displays the fare to expected time and the destination until a taxi picks up at an origin on the indicator 14, as shown in drawing 3 (a15). At this time, a user wishes to get on or the item which does not wish to get on and as which a user is made to choose whether you are ****** et al. is also displayed simultaneously. And when you wish to get on according to this item and a user does not wish YES (14b) and entrainment, he chooses NO (14c). Then, the user side information terminal 10 transmits to the server 30 by making into confirmed information the information which the user chose (a16, a17).

[0030]The server 30 ends processing by (a19:NO) and the allocation-of-cars reservation system 1, when the confirmed information which received is information on the contents that he does not wish (a18) and entrainment. When it is the information on the contents that he wishes to get on, (a19:YES) and reserved information are generated (a20). This reserved information is a number generated whenever a taxi is reserved by the allocation-of-cars reservation system 1. Then, the server 30 transmits reserved information to the user side information terminal 10 (a21, a22), and transmits reserved information and spot information to the taxi side information terminal 50 (a21, a23).

[0031]Based on the received reserved information, the user side information terminal 10 displays a number, as shown in drawing 4 (a) (a24). Based on the reserved information and spot information which were received, the taxi side information terminal 50 displays a number,

an origin, and the destination, as shown in drawing 4 (b) (a25).

[0032]By the above procedures, processing by the allocation-of-cars reservation system 1 is completed. In this allocation-of-cars reservation system 1, the user side transmission and reception means 12 functions as the spot information transmitting means as used in the field of this invention, a fare information reception means, a confirmed information transmitting means, and a reserved information reception means. The indicator 14 functions as the freight reporting means as used in the field of this invention, and an arrival information reporting means.

[0033]The server side transmission and reception means 32 functions as the spot information reception means as used in the field of this invention, a fare information transmitting means, a confirmed information reception means, and a reservation information transmitting means. The computer body 34 functions as a freight calculating means as used in the field of this invention. According to the allocation-of-cars reservation system 1 constituted in this way, the user can know a fare before entrainment beforehand by the inputted spot information. Therefore, when the notified fare is actually a liability, since a user is not asked for the fare more than the shown amount of money, he can get on in comfort. Even when the notified fare is the amount of money shown as a rule of thumb, since it can expect that a fare does not change substantially, if it compares with the conventional freight system, anxiety will decrease.

[0034]According to this allocation-of-cars reservation system 1, when a user gets on, ** which checks that he is the user who reserved certainly can do the taxi company side. Therefore, what picks up those who have not reserved allocation of cars by mistake does not happen. According to this allocation-of-cars reservation system 1, the user can check beforehand a predetermined time until a taxi picks up at an origin with a fare. Therefore, the user can decide whether to wish to get on in consideration of both a fare and waiting time.

[0035](Example 2) The allocation-of-cars reservation system 2 equips the taxi side information terminal 50 in Example 1 with the position detecting means 56 which detects latitude and longitude by GPS, and the switch 58 which inputs reservation desire information by an operation switch, as shown in drawing 5.

[0036]Reception of the 1st inquiry information sent by the server 30 constitutes the taxi side transmission and reception means 52 so that the taxi position information which shows the latitude of the current position of a taxi and longitude may be transmitted to the server 30. The taxi side transmission and reception means 52 is constituted so that the 2nd inquiry information sent by the server 30 can be received. It is the information sent in order to ask the driver of a taxi whether the 2nd inquiry information is in the state where it can go to greet the user who reserved allocation of cars, The information on the purport that he can make a user get on here if a driver changes the switch 58 to ON is transmitted to the server 30, and on the other hand, if the switch 58 is changed to OFF, the information on the purport that a user cannot be made to get on will be transmitted.

[0037]The procedure of the processing in this allocation-of-cars reservation system 2 is explained based on drawing 5. First, the user who considers use of the taxi operates the owned user side information terminal 10, and connects with the server 30. Connection between the user side information terminal 10 and the server 30 may be made for example, by the Internet course, and it may carry out via a telephone line. If connection between the user side information terminal 10 and the server 30 is established, a user will operate the user side information terminal 10, and will input spot information. By it, the user side information terminal 10 transmits the spot information which shows the position of the origin and destination which were inputted by the user to the server 30. The input of this spot information is the same as that of Example 1 (a1-a9).

[0038]The server 30 computes the route and running time from an origin to the destination by being caused computer body 34 based on the received spot information, and makes fare information the fare defined according to this computed result (a10, a11). Then, the server 30 transmits the 1st inquiry information to each taxi side information terminal (a12, a13).

[0039]By receiving inquiry information, each taxi side information terminal detects taxi position information by (a14) and each position detecting means, and transmits this taxi position information to the server 30 (a15, a16). The server 30 searches the taxi side information terminal 50 which is in the position near the origin of spot information from two or more received taxi position information (a17, a18). And the 2nd inquiry information is transmitted to the taxi side information terminal 50 (a19, a20). The taxi side information terminal 50 which received the 2nd inquiry information displays the item for checking whether allocation of cars may be reserved, as shown in drawing 6 (a21). The driver of a taxi who checked this item changes the switch 58 to the ON side, for example, when a user can be picked up immediately (a22). When a user cannot be picked up under a certain situation, the switch 58 is OFF changed to a side (a22). Then, the taxi side information terminal 50 transmits reservation desire information to the server 30 (a23).

[0040]When it is contents which show that the sent reservation desire information must not make a request to print out files of (a24) and allocation of cars (a25:NO), the server 30 searches other taxis which are in the position near an origin (a18). When reservation desire information is contents which show that allocation of cars may be reserved (a25:YES), the server 30 computes the arrival expected time at the time of sending the taxi to an origin at welcoming by depending it computer body 34, and is taken as arrival information (a26). And arrival information is transmitted to the user side information terminal 10 with this fare information (a27, a28).

[0041]The user side information terminal 10 which received fare information and arrival information displays the fare to expected time and the destination until a taxi picks up at an origin on the indicator 14, as shown in drawing 3 (a29). At this time, a user wishes to get on or

the item which does not wish to get on and as which a user is made to choose whether you are ****** et al. is also displayed simultaneously. And when you wish to get on according to this item and a user does not wish YES (14b) and entrainment, he chooses NO (14c). Then, the user side information terminal 10 transmits to the server 30 by making into confirmed information the information which the user chose (a30, a31).

[0042]The server 30 ends processing by (a33:NO) and the allocation-of-cars reservation system 2, when the confirmed information which received is information on the contents that he does not wish (a32) and entrainment. When it is the information on the contents that he wishes to get on, (a33:YES) and reserved information are generated (a34). This reserved information is a number generated whenever a taxi is reserved by the allocation-of-cars reservation system 2. Then, the server 30 transmits reserved information to the user side information terminal 10 (a35, a36), and transmits reserved information and spot information to the taxi side information terminal 50 (a35, a37).

[0043]Based on the received reserved information, the user side information terminal 10 displays a number, as shown in drawing 4 (a) (a38). Based on the reserved information and spot information which were received, the taxi side information terminal 50 displays a number, an origin, and the destination, as shown in drawing 4 (b) (a39).

[0044]By the above procedures, processing by the allocation-of-cars reservation system 2 is completed. In this allocation-of-cars reservation system 2, the user side transmission and reception means 12 functions as the spot information transmitting means as used in the field of this invention, a fare information reception means, a confirmed information transmitting means, and a reserved information reception means. The indicator 14 functions as the freight reporting means as used in the field of this invention, and an arrival information reporting means.

[0045]The server side transmission and reception means 32 functions as the spot information reception means as used in the field of this invention, a fare information transmitting means, a confirmed information reception means, and a reservation information transmitting means. The computer body 34 functions as a freight calculating means as used in the field of this invention. In the allocation-of-cars reservation system 2 constituted in this way, there is the same effect as Example 1.

[0046]Since arrival information is computed with the server 30 and the taxi side information terminal 50, necessity does not have an operator like Example 1. As mentioned above, although the embodiment of this invention was described, this invention is not limited to the one above-mentioned concrete embodiment, in addition can be carried out with various gestalten.

[0047]For example, it is, even if it is two or more computers arranged at the place where it is not limited, for example, servers differ especially about the server's 30 composition although what was constituted by one set of the server 30 was illustrated in the above-mentioned

embodiment and constituted, and it is **. In this case, search of map information, calculation of a fare, the input of the arrival information by an operator, etc. can be performed at a different place.

[0048]In the above-mentioned embodiment, after connection between the user side information terminal 10 and the server 30 was established, illustrated what operates the user side information terminal 10 and inputs spot information, but. Without connecting the server 30 with the user side information terminal 10, it may be constituted so that spot information may be inputted. For example, the user side information terminal 10 is provided with auxiliary storage units, such as a hard disk, and it may be constituted so that a map may be searched and a spot information input may be carried out with the database in the hard disk. If constituted in this way, in inputting spot information, it is not necessary to perform data communications.

[0049]In the above-mentioned embodiment, although what is inputted with search methods, such as the name of a place, a name of the station, and a telephone number, was illustrated as a method of inputting spot information, it is not limited in particular for search and the input method of spot information. For example, it is good also considering a user's current position and the current position detected by position detecting means, such as GPS prepared for the case where an origin is the same at the user side information terminal, as spot information of an origin.

[0050]In the above-mentioned embodiment, although the route and running time from an origin to the destination were computed and what made fare information the fare defined according to this computed result was illustrated, the calculating method in particular of a fare is not limited. For example, the slant range from an origin to the destination is computed, and let the fare proportional to the distance be fare information.

[0051]In the above-mentioned embodiment, the server 30 illustrated what ends processing, when the confirmed information which received was information on the contents that he does not wish to get on, but when fixed time confirmed information is not sent, he ends processing automatically.

[0052]In the above-mentioned embodiment, although reserved information illustrated the thing of the number generated with the computer body 34 whenever a taxi is reserved, the contents in particular of reserved information are not limited. For example, it is good also considering the row of a random character as reserved information. In the above-mentioned embodiment, although what a confirmation number is displayed on the indicator 54 of the taxi side information terminal 50 as was illustrated, the confirmation number displayed on the 2nd indicator 60 with which the taxi was equipped as shown in drawing 7 can check from the outside. If constituted in this way, the taxi which he reserved from the user side can be checked easily.

[0053]The fare in the above-mentioned embodiment can choose the settlement of accounts now from two or more means of settlement, as shown in drawing 8 (a). This selection picture should just be constituted so that it may be displayed on the (drawing 3:14b) user side information terminal 10, when a user reserves allocation of cars. The means of settlement can consider some means of settlement other than the method of paying a driver cash directly by a taxi in the car like before (14d). For example, the means of settlement collected with the telex rate of the communication line currently used can be considered (14e). In this case, the fare information computed by the server 30 is transmitted to the telecom company side which has managed the communication line, and the telecom company side adds a fare to a user's telex rate, and should just collect a fee. By being pulled down from a user's bank account, a fare settles accounts or a fare is settled with (14f) and a credit card (14g). According to such means of settlement, even if the user does not have cash, he can take a taxi, and the driver does not need to manage cash by in the car [of a taxi].

[0054]In the above-mentioned example, although what transmits one kind of fare which the server 30 computed was illustrated, the number of the fares to compute may not be one. For example, it may be constituted so that the server 30 may transmit two or more fares computed by two or more computing methods, such as the computing method in consideration of use of the toll road, and the computing method do not take use of a toll road into consideration, as fare information. In this case, the user can reserve allocation of cars on the conditions for which a user wishes, such as choosing the fare in consideration of use of the toll road from two or more fares, for example to move in a hurry using a toll road. The fare information which the server 30 transmits may be constituted by the fare which two or more taxi companies computed by each computing method, and the time of arrival of each taxi.

[0055]The user side information terminal 10 which received this fare information is good to be constituted so that time until two or more fares and taxis pick up may be displayed, as shown in drawing 9. In this case, the user can reserve allocation of cars on the conditions of hope from time until not only two or more fares but each taxi picks up.

[Translation done.]